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Supplementary Material

Meteorological drivers of the eastern Victorian Black Summer (2019–2020) fires

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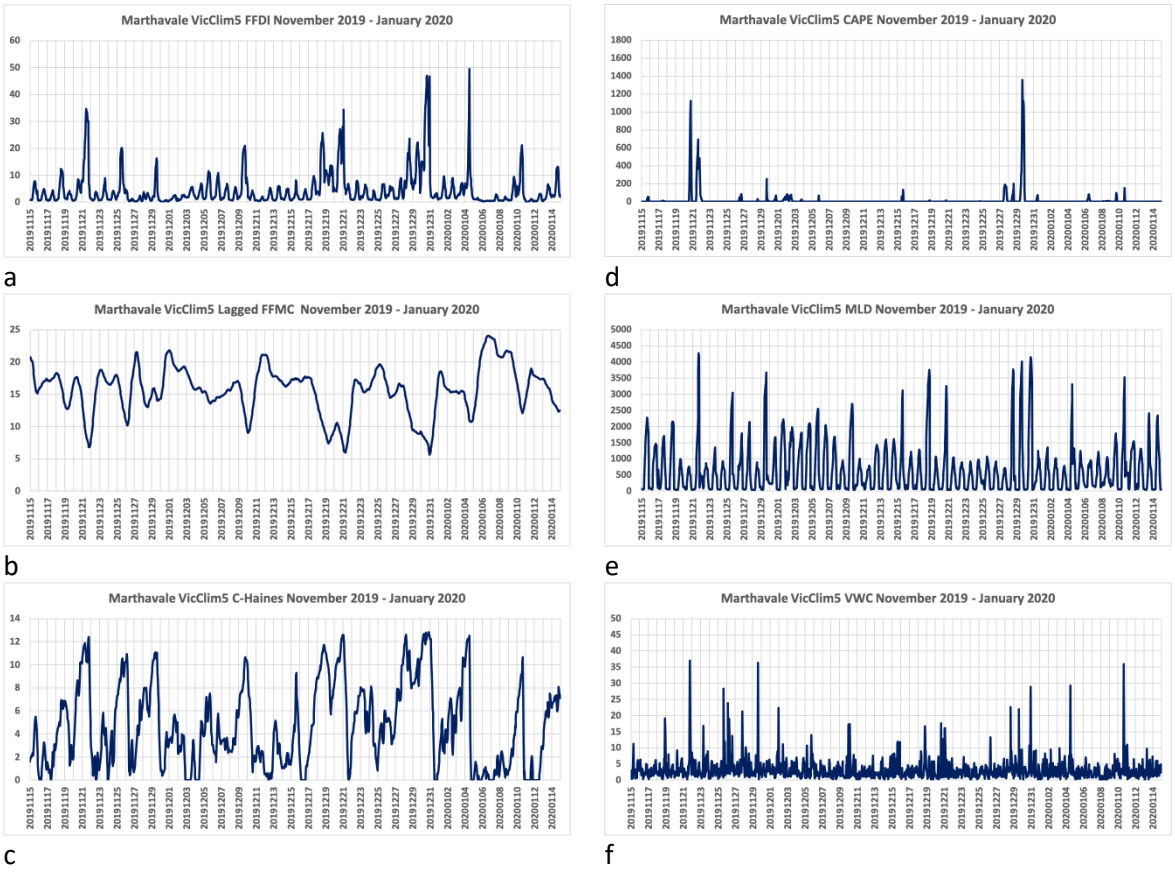


Figure S1. Time series from VicClim5 from 0000 AEDT 15 November 2019 to 0000 AEDT 15 January 2020 of hourly values of (a) FFDI, (b) 24-h mean FFMC (%), (c) C-Haines Index, (d) CAPE (J kg^{-1}), (e) Mixed Layer Depth (m AGL) and (f) Vector Wind Change (km h^{-2}) at the Marthavale gridpoint (37.43333°S, 147.50124°E, model surface elevation 440 m).

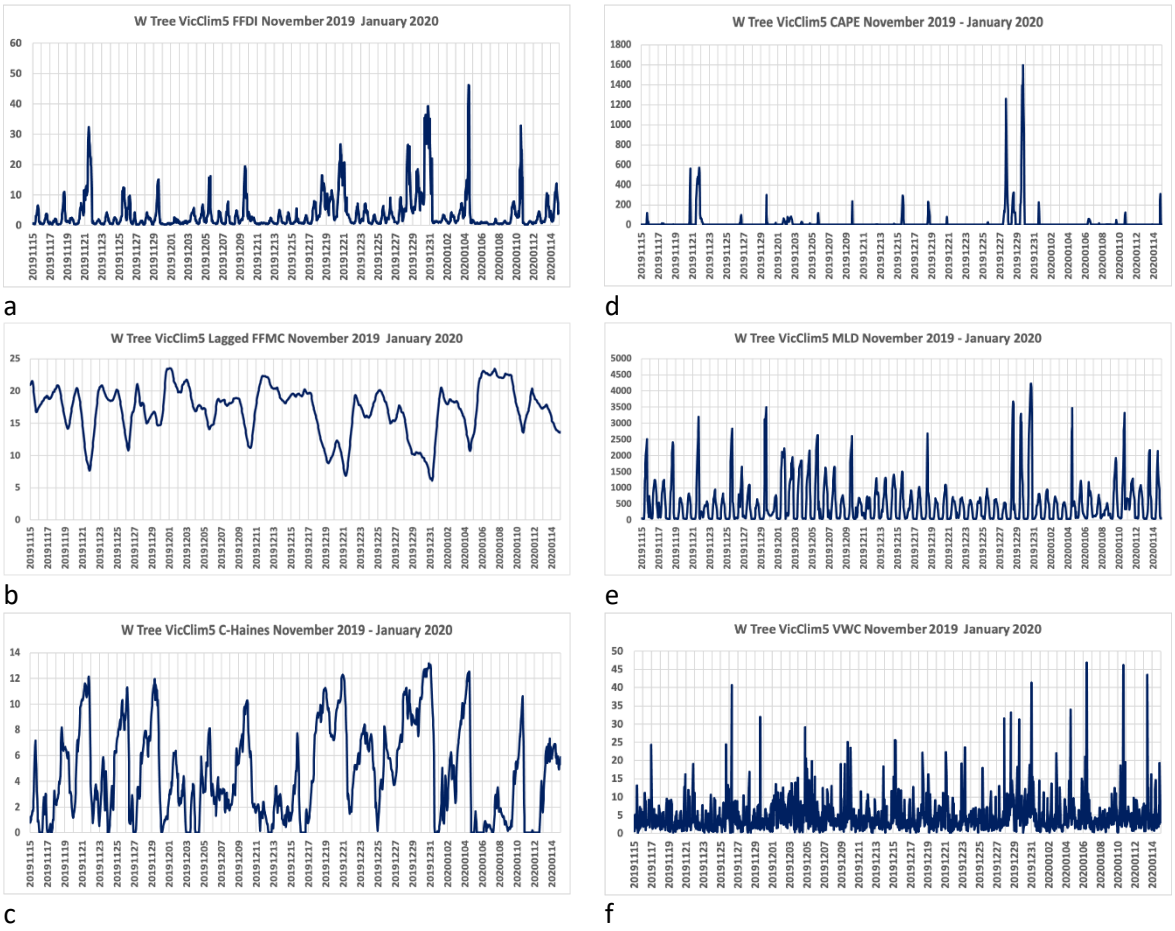


Figure S2. As Fig. S1 at the W Tree gridpoint (37.32517°S, 148.29629°E, model surface elevation 513 m).

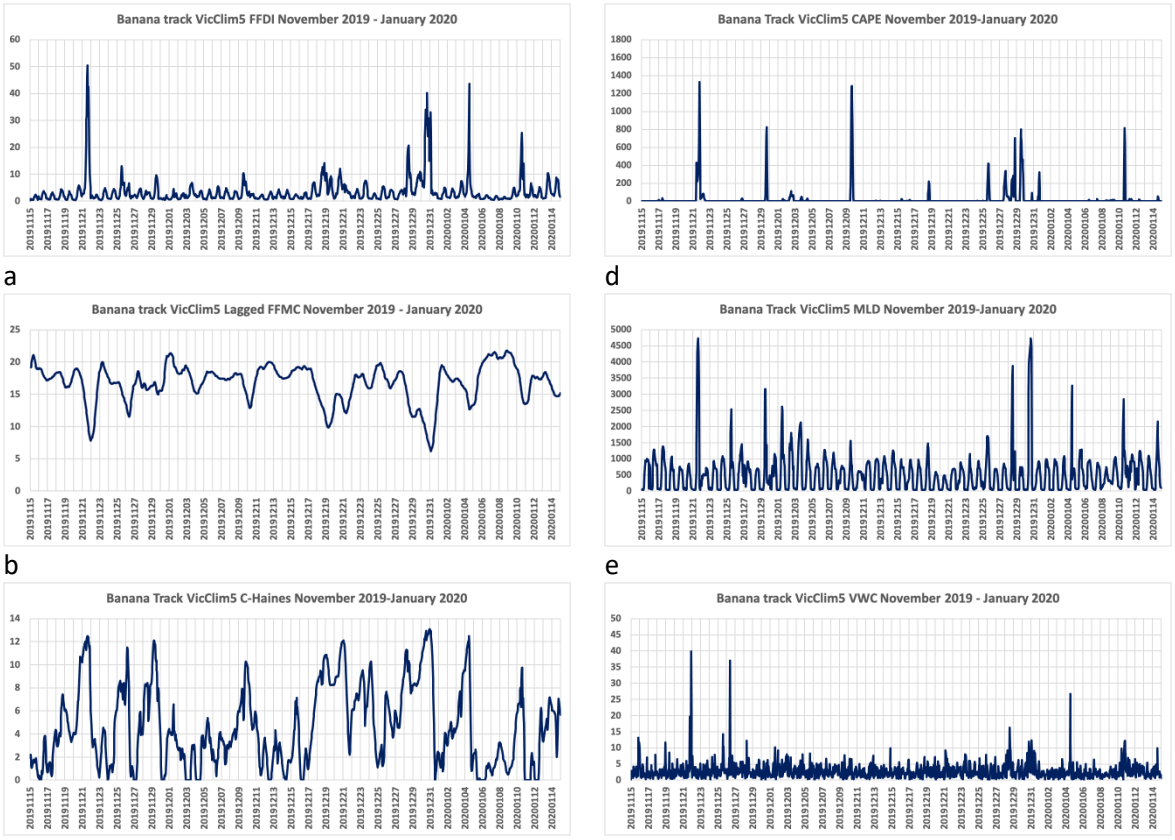


Figure S3. As Fig. S1 at the Banana Track gridpoint (37.6136°S, 149.31851°E, model surface elevation 155 m).

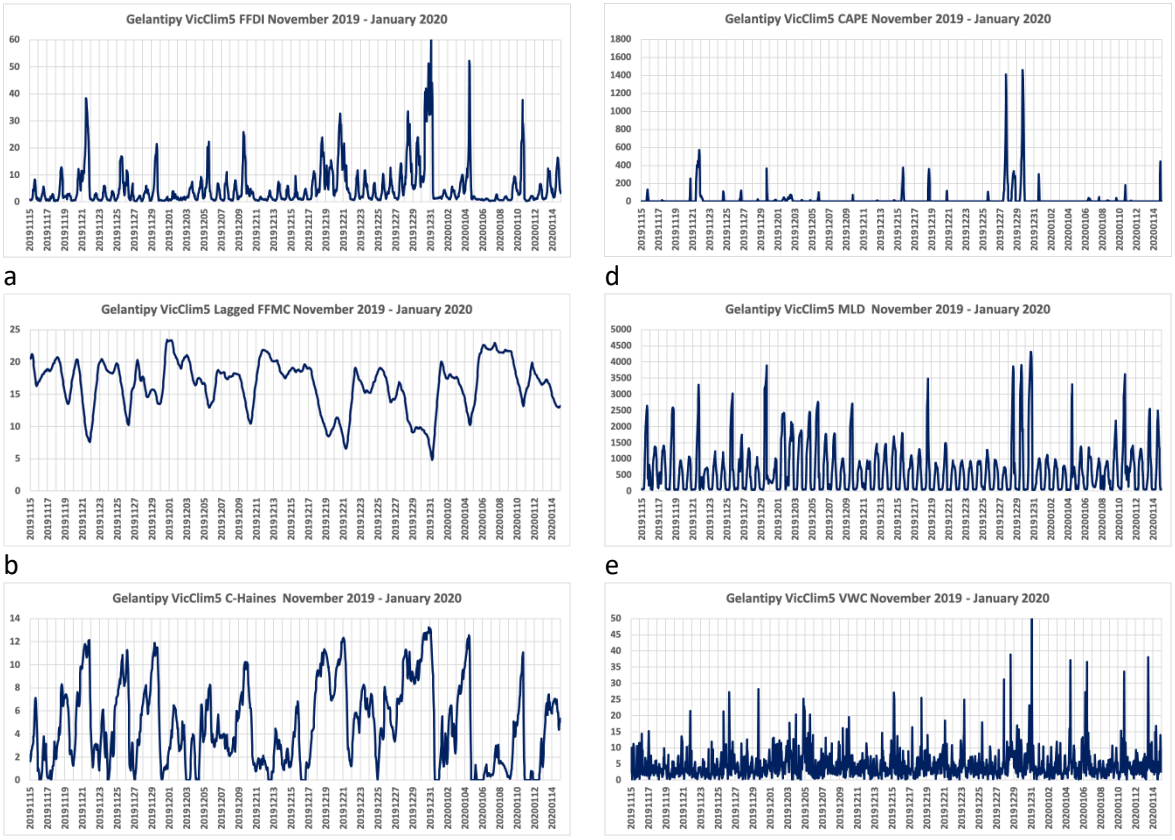
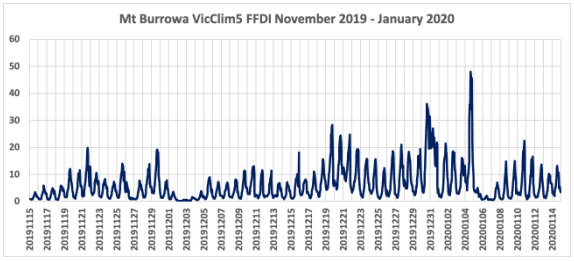
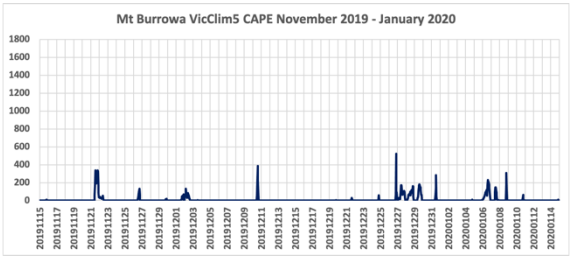


Figure S4. As Fig. S1 at the Gelantipy gridpoint (37.21701°S, 148.25844°E, model surface elevation 387 m).



a



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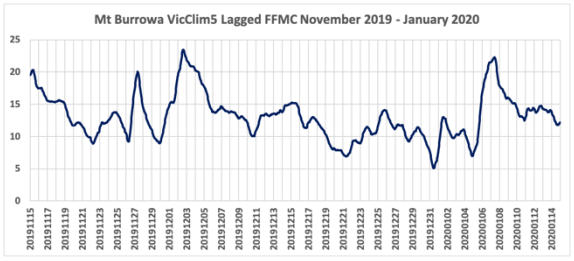
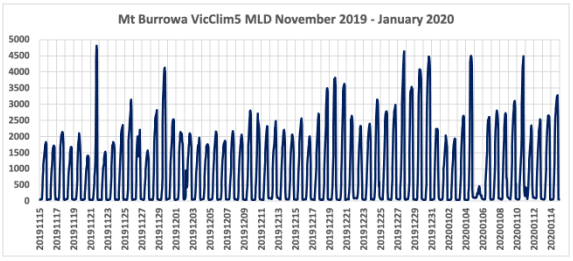


b



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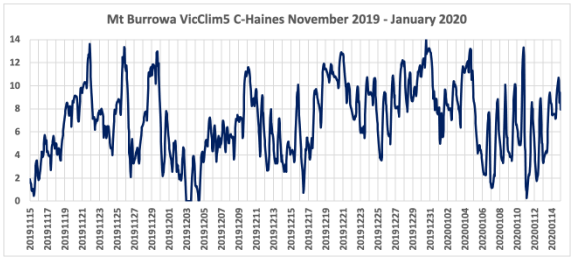
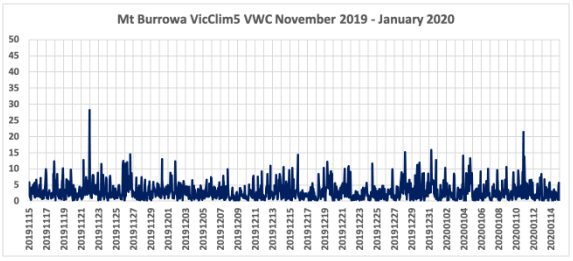


c



f

Figure S5. As Fig. S1 at the Mount Burrowa gridpoint (36.09932°S, 147.69054°E, model surface elevation 732 m.

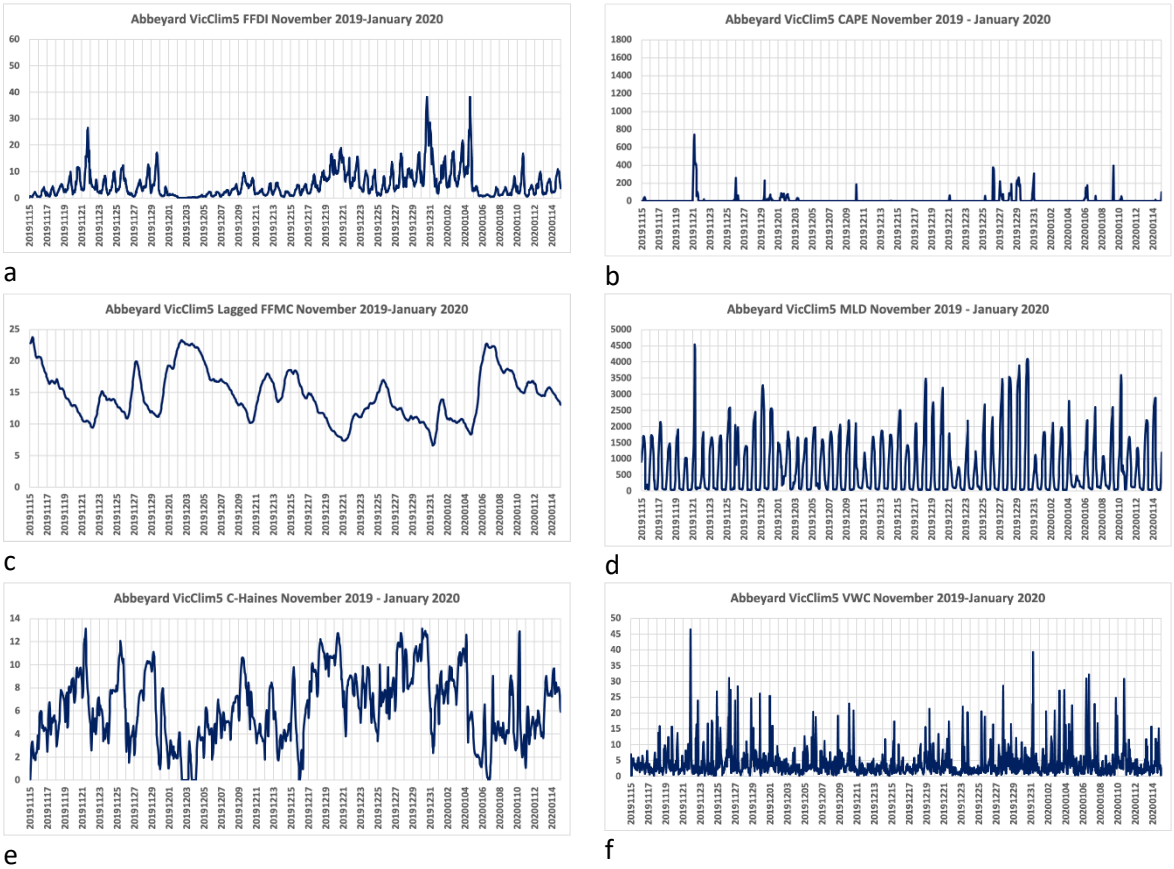


Figure S6. As Fig. S1 at the Abbeyard gridpoint (37.03674°S, 146.78189°E, model surface elevation 692 m).

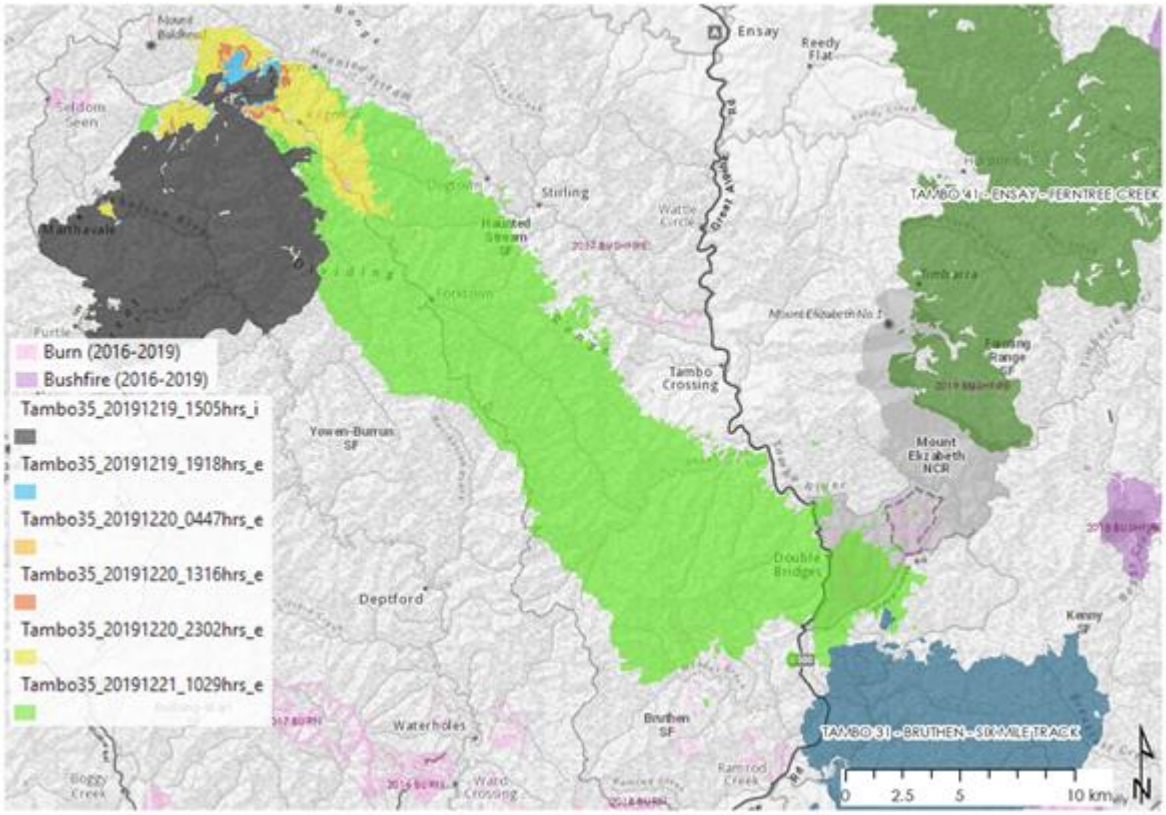


Figure S7. Reproduction of fig. 51 of Salkin (2022). Fire progression Barmouth Spur–Marthavale bushfire of 19–21 December 2019.

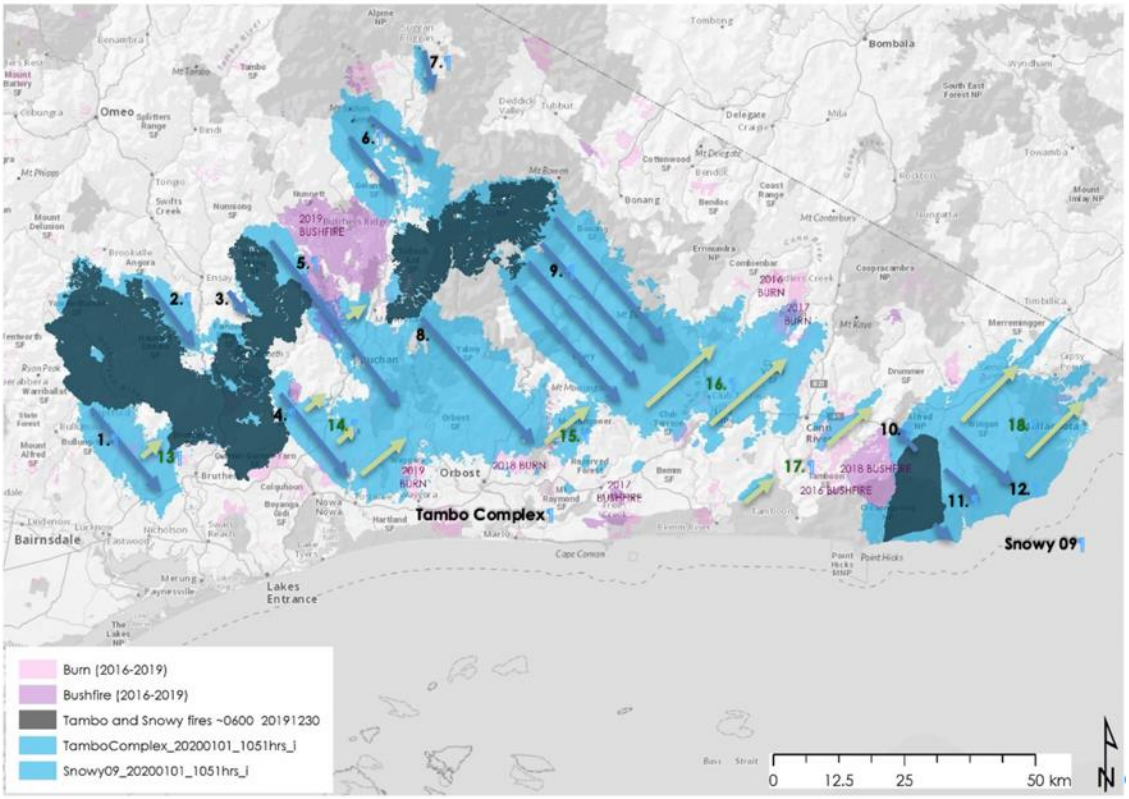


Figure S8. Reproduction of fig. 180 of Salkin (2022). Major fire runs on 30–31 December 2019. Details of the fires, keyed by arrow number, are shown in Table S1 below.

Table S1. Fire behaviour parameters for selected fire runs on 30–31 December 2019 (reproduced from table 3 of Salkin 2022).

Number	Name	Fire run length (km)	Time of run (h)	Average ROS (km h^{-1})	Max spotting distance (km)	Comment
1 & 13	Sarsfield–Clifton Creek	22	6	3.6	≥8	
2	Angora Range				24?	2 stages
3	Reedy Flat–Holstons	7.5	2.3	3.2	0	Predominantly grass fire
4 & 14	Buchan South to Wairewa	17	9	1.9	?	Fire affected Wairewa at *c.* 2300 hours
5	Buchan	25	6	4.2	?	
6	Seldom Seen	25	12	2.1	5-6	
7	Mount Stradbroke	9	?	?	?	
8	Snowy River to Orbost	28	10	2.8	≥5	
9	Yalmy to Cann River	50	18	2.7	≥15	ROS calculated from Yalmy Road to Princes Highway
11,12 & 18	Wingan to Mallacoota	25	20	1.2	?	Was a flanking fire before wind change

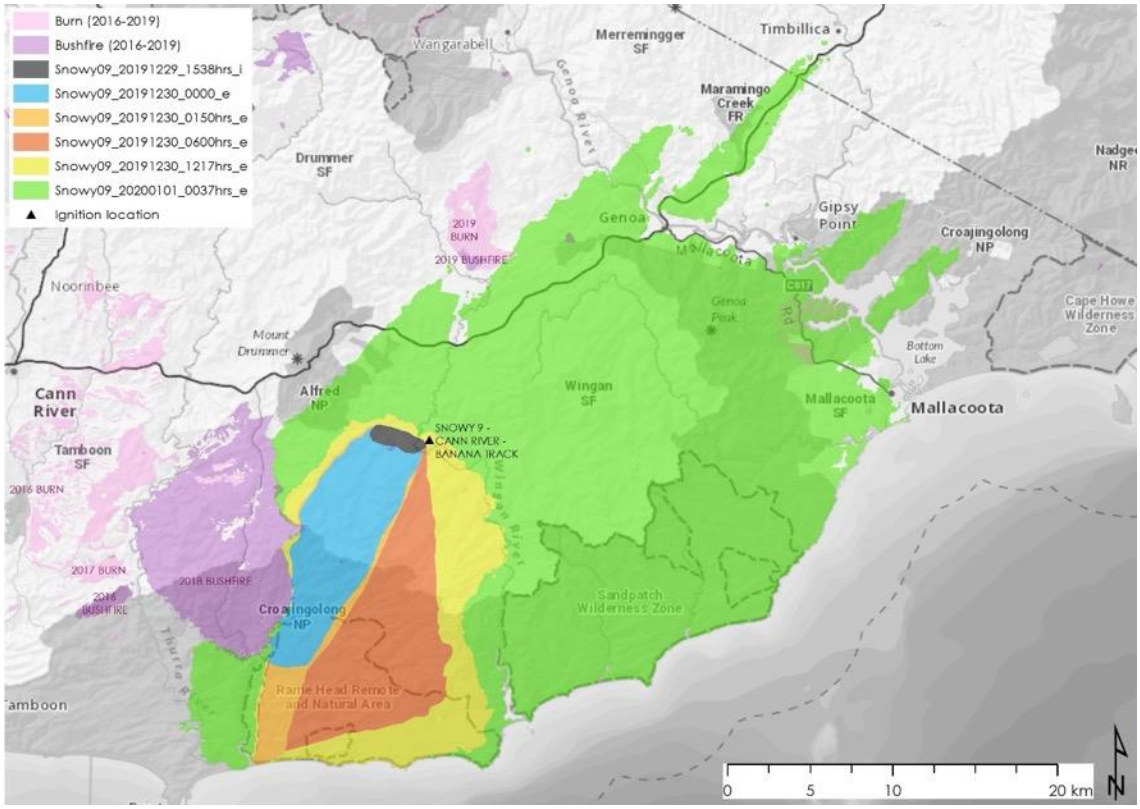


Figure S9. Reproduction of fig. 164 of Salkin (2012) showing fire progression for the Banana Track fire 29 December 2019 to 1 January 2020.

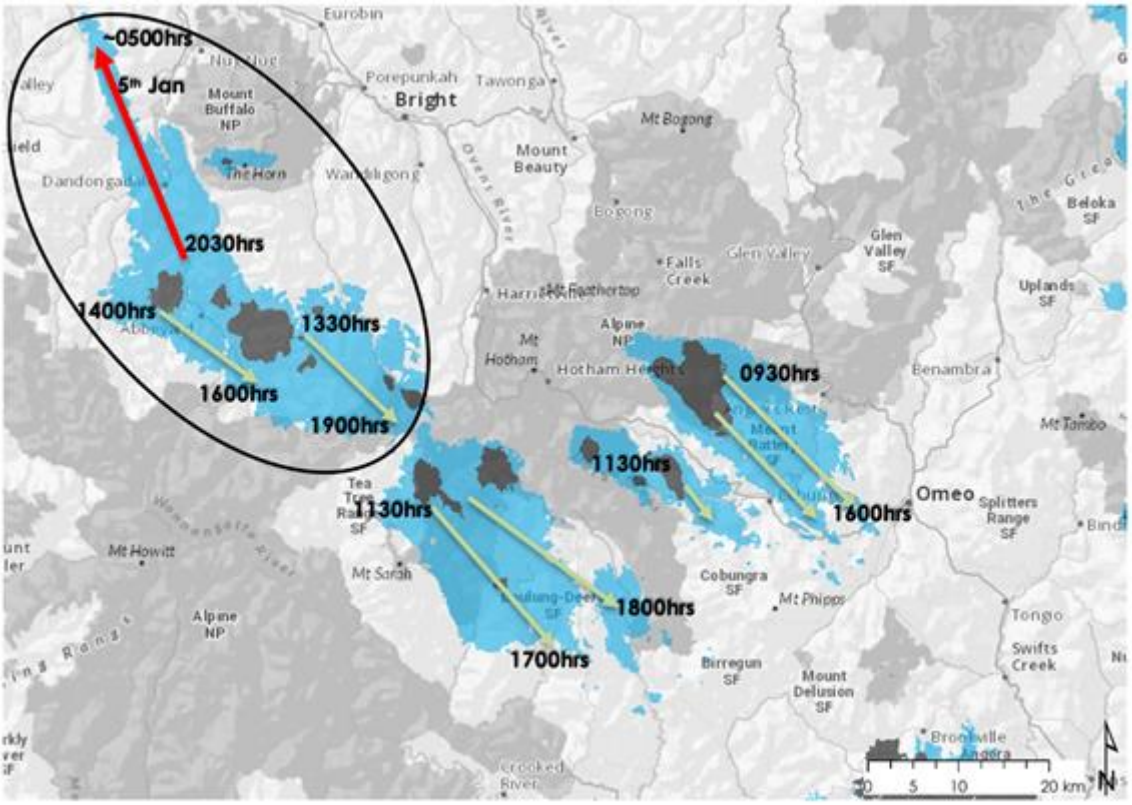


Figure S10. Reproduction of fig. 148 of Salkin (2022). The fire runs within the oval are part of the Ovens Complex, whereas those to the southeast are part of the Tambo complex of fires. The run of the "Abbeyard Fire" discussed in the text is marked by the red arrow, with the arrow showing the run from 2030 hours AEDT on 4 January to 0500 hours AEDT on 5 January 2020.

Reference

Salkin O (2022) Victorian Bushfire case studies. Preliminary reconstruction of the eastern Victorian Black Summer Fires. November 2019–February 2020. BNHCRC Report. https://www.bnhcrc.com.au/research/understanding-and-mitigating-hazards/7935